

# NEW COMBINATIONS IN *CHIONOLAENA* (ASTERACEAE: GNAPHALIEAE)

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## ABSTRACT

Five nomenclatural combinations complete the transfer of Mexican and Central American species from *Gnaphaliothamnus* to *Chionolaena*: ***Chionolaena costaricensis***, ***Chionolaena cryptocephala***, ***Chionolaena durangensis***, ***Chionolaena macdonaldii***, and ***Chionolaena salicifolia***. In this view, *Chionolaena* is a genus spread across northeastern and northern South America, Central America, and south-central to southwestern Mexico.

## RESUMEN

Cinco combinaciones nomenclaturales completan la transferencia de especies mexicanas y Centroamericanas de *Gnaphaliothamnus* a *Chionolaena*: ***Chionolaena costaricensis***, ***Chionolaena cryptocephala***, ***Chionolaena durangensis***, ***Chionolaena macdonaldii***, y ***Chionolaena salicifolia***. Desde este punto de vista, *Chionolaena* es un género distribuido por el noreste y norte de Sur América, América Central, y del sur-centro al suroeste de México.

Ten species of Mexico and Central America were treated within *Gnaphaliothamnus* Kirpiczn. (Nesom 1990a, 1990b, 1994), but a case has been made for regarding these species as members of *Chionolaena* DC. (Anderberg & Freire 1989; Anderberg 1991; Freire 1993), which otherwise includes species from northeastern and northern South America. Emphasizing similarities in habit and microcharacters among all of these species, as well as their apparent geographical continuity, the view that all arose from an immediate common ancestor is reasonable and all will be recognized as members of *Chionolaena* in an upcoming treatment of Mexican Gnaphalieae (Nesom in prep.).

In this view, *Chionolaena* is a genus spread across South America, Central America, and south-central and southwestern Mexico. The Mexican and Central American species are characterized by a low, woody habit, revolute leaf margins, mostly heterogamous heads, phyllaries with white-opaque, spreading tips, reddish corollas, fertile achenes ellipsoid to obovoid 1.2–2 mm long with minute, somewhat elongated, duplex hairs, and central florets functionally staminate, with apically swollen pappus bristles and narrowly lanceolate style branches with collecting hairs along their whole length. They occur primarily in areas of high elevation. Distinctive vegetative glandularity and features of achenial vestiture of the Mexican and Central American species of *Chionolaena*, however, indicate that they probably constitute a phyletically coherent northern

segment of the genus, rather than being cladistically interspersed among the South American species, as postulated by Freire (1993) (see Nesom 1994 for further commentary).

Five of the Mexican and Central American species have valid names within the genus *Chionolaena*, as summarized here.

***Chionolaena aecidiocephala*** (Grierson) Anderb. & Freire, Notes Roy. Bot. Gard. Edinburgh 46:40. 1989. *Anaphalis aecidiocephala* Grierson, Notes Roy. Bot. Gard. Edinburgh 31:389. 1972. *Gnaphaliothamnus aecidiocephala* (Grierson) Nesom, Phytologia 68:373. 1990.

***Chionolaena concinna*** (A. Gray) Anderb. & Freire, Ann. Missouri Bot. Gard. 80:415. 1993. *Gnaphalium concinnum* A. Gray, Proc. Amer. Acad. Arts 15:34. 1879. *Gnaphaliothamnus concinnus* (A. Gray) Nesom, Phytologia 68:374. 1990. *Chionolaena mexicana* Freire [nom. nov.], Ann. Missouri Bot. Garden 80:427. 1993.

***Chionolaena eleagnoides*** Klatt, Leopoldina 23:88. 1887. *Gnaphaliothamnus eleagnoides* (Klatt) Nesom, Phytologia 68:376. 1990.

***Chionolaena lavandulifolia*** (Kunth) Benth. & Hook. f. ex B.D. Jackson, Index Kew. 1:516. 1893. *Helichrysum lavandulifolium* Kunth, Nov. Gen. & Sp. 4[folio]:68. 1818 [as *Elychrysum lavandulaefolium*]. *Gnaphaliothamnus lavandulifolius* (Kunth) Nesom, Phytologia 68:377. 1990.

***Chionolaena sartorii*** Klatt, Leopoldina 23:89. 1887. *Gnaphaliothamnus sartorii* (Klatt) Nesom, Phytologia 68:379. 1990.

Another five species are brought into *Chionolaena* with combinations provided here. The first four were not accounted for in the revision of *Chionolaena* by Freire (1993); the taxonomic disposition of the fifth (*C. salicifolia*) is discussed.

***Chionolaena costaricensis*** (Nesom) Nesom, comb. nov. *Gnaphaliothamnus costaricensis* Nesom, Phytologia 68:374. 1990.

***Chionolaena cryptocephala*** (Nesom) Nesom, comb. nov. *Gnaphaliothamnus cryptocephalus* Nesom, Phytologia 68:375. 1990.

***Chionolaena durangensis*** (Nesom) Nesom, comb. nov. *Gnaphaliothamnus durangensis* Nesom, Phytologia 69:1. 1990.

***Chionolaena macdonaldii*** (Nesom) Nesom, comb. nov. *Gnaphaliothamnus macdonaldii* Nesom, Phytologia 68:378. 1990.

***Chionolaena salicifolia*** (Bertol.) Nesom, comb. nov. *Helichrysum salicifolium* Bertol., Nov. Comm. Acad. Sci. Bonon. 4:433. 1840. *Gnaphaliothamnus salicifolius* (Bertol.) Nesom, Phytologia 68:378. 1990.

*Gnaphalium rhodanthum* Schultz-Bip. in Seemann, Bot. Voy. Herald, 310. 1856. *Gnaphaliothamnus rhodanthus* (Schultz-Bip.) Kirpiczn., Trudy Bot. Inst. Akad. Nauk SSSR, Ser. 1, Fl. Sist. Vyss. Rast. 9:33. 1950. [the type of *Gnaphaliothamnus*]

*Gnaphalium seemannii* Schultz-Bip. in Seemann, Bot. Voy. Herald, 309. 1856. *Chionolaena seemannii* (Schultz-Bip.) Freire, Ann. Missouri Bot. Gard. 80:432. 1993.

*Chionolaena corymbosa* Hemsley, Diagn. Pl. Nov. 2:32. 1879.

TABLE 1. Pappus features of Mexican and Central American *Chionolaena*.

SPECIES	pappus bristles: basal coherence	pappus bristles basal persistence	pappus bristles apical cell shape
<i>C. aecidiocephala</i>	separate	persistent	clavate
<i>C. concinna</i>	separate to slightly connate	persistent	clavate
<i>C. costaricensis</i>	separate	caducous	clavate
<i>C. cryptocephala</i>	separate	caducous	linear to weakly clavate
<i>C. durangensis</i>	slightly connate	persistent	clavate
<i>C. eleagnoides</i>	slightly connate	persistent	clavate
<i>C. lavandulifolia</i>	separate	persistent	linear to weakly clavate
<i>C. macdonaldii</i>	(not seen)	(not seen)	clavate
<i>C. salicifolia</i>	slightly connate	caducous	linear to weakly clavate
<i>C. sartorii</i>	(not seen)	(not seen)	(not seen)

Freire (1993) noted that the genus *Gnaphaliothamnus*, restricted in her concept to a single species, *Gnaphaliothamnus salicifolius*, is the sister group to *Chionolaena*, differing from all other species of *Chionolaena* in its “free pappus bristles” [vs. pappus bristles “fused at base into a ring”] “with linear apical cells” [vs. “clavate” apical cells]. In contrast, she incorporated the same single species into *Chionolaena*, using one of its synonyms for the nomenclatural combination (*Chionolaena seemannii* = *Gnaphaliothamnus rhodanthus* = *Gnaphaliothamnus salicifolius* ≡ *Chionolaena salicifolia* (see Nesom 1994 for further commentary on this synonymy).

My own observations regarding the pappus features that distinguish *Gnaphaliothamnus* sensu stricto (in Freire’s view) further indicate that its separation at generic rank from similar Mexican and Central American species is artificial. Table 1 compares pappus features of these species—*C. salicifolia* does not stand apart. *Chionolaena salicifolia* was hypothesized to be most closely similar and related to *C. eleagnoides* by Nesom (1994).

#### ACKNOWLEDGMENTS

I am grateful to John Strother and Debra Trock for their comments on the manuscript.

#### REFERENCES

- ANDERBERG, A.A. 1991. Taxonomy and phylogeny of the tribe Gnaphalieae (Asteraceae). *Opera Bot.* 104:1–195.
- ANDERBERG, A.A. and S.E. FREIRE. 1989. Transfer of two species of *Anaphalis* to *Chionolaena*. *Notes Roy. Bot. Gard. Edinb.* 46:37–41.
- FREIRE, S.E. 1993. A revision of *Chionolaena* (Compositae, Gnaphalieae). *Ann. Missouri Bot. Gard.* 80:397–438.

- NESOM, G.L. 1990a. Taxonomy of *Gnaphaliothamnus* (Asteraceae: Inuleae). *Phytologia* 68:366–381.
- NESOM, G.L. 1990b. An additional species of *Gnaphaliothamnus* (Astereae: Inuleae) and further evidence for the integrity of the genus. *Phytologia* 69:1–3.
- NESOM, G.L. 1994. Comments on *Gnaphaliothamnus* (Asteraceae: Inuleae). *Phytologia* 76:185–191.